Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
FWCC Request for Declaratory Ruling on Partial-Band Licensing of Earth Stations in the Fixed-Satellite Service That Share Terrestrial Spectrum	)	IB Docket No. 00-203 RM-9649
	)	
FWCC Petition for Rulemaking to Set Loading Standards for Earth Stations In the Fixed-Satellite Service that Share Terrestrial Spectrum	)	
	)	
Onsat Petition for Declaratory Order that Blanket Licensing Pursuant to Rule 25.115(c) is Available for Very Small Aperture Terminal Satellite Network Operations at C-Band	)	SAT-PDR-19990910-00091
	)	
Onsat Petition for Waiver of Rule 25.212(d) to the Extent Necessary to Permit Routine Licensing of 3.7 Meter Transmit and Receive Stations at C-Band	)	
	)	
Ex parte Letter Concerning Deployment of Geostationary Orbit FSS Earth Stations in the Shared Portion of the Ka-band	)	

COMMENTS OF PINNACLE TELECOM GROUP

1. Pursuant to Sections 1.415 and 1.419 of the Commission's Rules, Pinnacle Telecom Group, LLC ("PTG") submits the following Comments in response to the above-captioned Notice of Proposed Rulemaking ("Notice").

2. PTG is an independent consulting and engineering firm providing services to the telecommunications industry, and we are one of a fairly small number of microwave/satellite frequency coordination firms in the US. The comments offered herein address only those portions of the Notice that focus on frequency coordination procedures for shared-band microwave and satellite earth stations.

3. At the outset, we suggest that the detailed aspects of coordination procedures should probably be delegated – as far as practicable – to the frequency coordination community to address and resolve. Organizations directly involved in microwave/satellite frequency coordination on a daily basis are best positioned to examine procedural alternatives, eliminate or avoid potential pitfalls, and agree on an industry-wide practice that effectively and efficiently addresses the issue at hand. For the two issues we will address in these Comments, one was actually resolved by the coordination community decades ago, and the other obviously requires the input of knowledgeable frequency coordinators to make the desired resolution actually workable in day-to-day coordination practice.

4. As indicated in the Notice, the microwave (and earth station) coordination community has thus far not participated in this proceeding, but PTG expects one or more of our colleague coordination firms to voice opinions at this stage, and we further expect that the Commission will hear a consistent message from that segment of the industry.

5. Fundamentally, the Notice proposes two types of change in frequency coordination procedures, as follows: (1) modification to the existing principle of “full-band, full-arc” coordination for satellite earth stations; and (2) treatment of new coordination in the light of previously-accepted interference exposures not meeting objectives.

6. Because the latter is fairly straightforward, we will address it first. The Notice, acting on a suggestion by the Fixed Wireless Communications Coalition (FWCC), proposes that both microwave and earth station operators would be required to apply the same interference-mitigation factors (such as terrain or building blockage) in new coordination as those factors have been used and accepted in earlier coordination involving the same "interfered-with" station[1]. The bottom line, we believe, is less related to the application of particular interference-mitigation factors as it involves the acceptance of a particular level of calculated interference, net of any application of mitigation factors.

7. PTG believes there is no need for this new regulation. First, we do not believe the described problem is at all a real issue in the industry. There is no question within the coordination community that whatever mitigation factors apply to any potential interference case can be applied to that case, independent of whether those factors were applied in previous coordination[2]. Second, the coordination community has always operated with a common understanding that if an operator agreed to accept a certain level of interference (in a given frequency range), then that operator could *not* object to the same calculated level of interference from another party's new coordination proposal[3]. Third, application of this standard industry practice is independent of the particular *azimuth* of the originally-accepted interference; the only factors involved are the frequency range and the calculated net interference level. PTG believes there is no

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[1] The Notice's discussion of the FWCC proposal describes this as an issue involving "the same azimuth and [earth station] elevation angle", although the text of the proposed regulations is more general – and wisely so, for the reasons we describe.

[2] We note, in passing, that building blockage applied in an earlier coordination does not automatically apply to future coordination; a building's interference-blockage effects do not apply to subsequent coordination if the building has been torn down.

[3] According to existing regulations and industry practice, there is also no question that any operator is free to accept interference exposures in excess of the applicable objective – and it is generally this circumstance that is of interest in terms of an operator's prior acceptance of a given interference level.

need for the Commission to codify such a well-established and universally-accepted industry practice.

8. Now to the other issue. The full-band, full-arc coordination "starting point" for earth station coordination was established by the FCC almost 30 years ago, when commercial satellite services were in their infancy and there was significant and legitimate concern about the relative economics of satellite systems (versus microwave systems at the time), the reliability of satellites and their transponders, regulators' possible needs to force shifts of satellite positions in the geostationary arc – and how those factors combined to suggest in terms of the need for earth station frequency protection. Thus, earth station operators were afforded extraordinary coordination rights to support the necessary operational flexibility.

9. As described in the Notice, the frequency bands of interest are supposedly shared on a coequal basis, but there is a significant disparity in coordination rights for the different types of operations. Microwave coordination is basically a "bottom-up" procedure (i.e., clearing frequencies that are actually needed), whereas earth station coordination is effectively a "top-down" process (i.e., clearing whatever can be cleared, independent of actual need). Three decades of experience has brought significant changes in technology and economics and, as the Notice suggests, it is time to bring greater coordination parity and true coequal sharing to the bands in question.

10. The Notice basically proposes to allow microwave coordinators to challenge an earth station operator's denial of a new microwave coordination proposal based simply on the "full-band, full-arc" principle. (The issue actually involves "band" much more than "arc".) If, in response to a challenge, the earth station operator cannot justify use of the

frequency range in question, the denial of microwave coordination would be overridden. In effect, this would treat unused earth station frequencies in much the same manner as microwave "growth channels" as described in the existing regulations (Section 101.103).

11. PTG supports bringing greater parity to the relative coordination rights of parties with equal access to the spectrum involved. (Indeed, one can harbor the hope that this could lead to a renewed interest in new microwave construction in the 4 GHz band.) However, while we believe the objective of the Commission's proposal is not at all misplaced, we are not convinced that the Notice's specific proposal is the optimal approach to address the issue.

12. First, it appears to us to be less necessary to create new regulations than to simply eliminate the "full-band, full-arc" reference in the earth station coordination rules (Section 25.203) and, as is the case now, allow that Section's reference to the procedures in Section 101.103 to guide all other aspects of the coordination process. Subparagraph "xii" of Section 101.103 could apply, and does not require any language modification to address the issue at hand, providing the "full-band, full-arc" reference is eliminated from Section 25.203.

13. Second, it is important to understand the direction of the interference exposures in each of the bands in question, and the relative incentives of the different parties to share data on a timely basis. Because of the segregation of satellite uplinks and downlinks, in the 6 GHz band, for example, earth stations can interfere with microwave stations, but not vice versa. Therefore, a microwave operator's only concern with earth stations in that band is to select channel frequencies that will not suffer objectionable interference. Consider the relative lack of incentives for an earth station operator to

share the necessary information, given that the issue does not involve interference to the earth station and that the earth station's frequency protection rights are likely only to be reduced as a result of the information-sharing.

14. Third, it is important to understand that microwave operators operate today on fairly fast planning and construction schedules, and they typically want to be able to order the microwave equipment as quickly as possible – often as soon as the coordination notification is issued. Thus, key to making the Commission's proposal work involves the timely availability of the necessary earth station frequency data.

15. With the Commission's proposal, however, it appears any challenge to an earth station operator from a microwave operator would come at the *end* of the 30-day coordination notification-response procedure – and no particular time frame or deadline is proposed for response to the challenge and delivery of the necessary. As the Commission is fully aware, there are no set deadlines for resolution of objections in frequency coordination; at that point, it becomes an open-ended process. Further, in typical microwave coordination there may be dozens of "full-band, full-arc" earth stations that represent potential candidates for the proposed challenges, and the microwave coordination may not be successfully completed until responses to all challenges are made. Moreover, given that microwave coordinators conventionally issue coordination notifications for specific channels they initially believe they can clear, the process of challenging different earth station operators could easily result in an extended series of subsequent microwave coordination notifications, each attempting to clear different channels in the hopes of eventual success with one of them. Assuming the process ultimately proves successful, a final follow-up microwave coordination notification would be required, per Section 101.103(xi), to advise of the results of the entire exercise.

Indeed, this process suggests that perhaps the best course for a microwave coordinator would be to initially attempt to coordinate on a "full-band" basis, then issue challenges to all earth station operators, and eventually determine clearable frequencies through a process of elimination. However, that would only serve to make all coordination grossly uneconomic and inefficient.

16. The key issue is the availability of earth station frequency-use information with which microwave coordination can proceed to conclusion in a timely fashion. Obviously, the necessary data is not available today, and we do not suggest any massive campaign by the FCC or the industry to collect it now in order to satisfy the stated objective. There is, however, at least one way to satisfy the objective in a more effective and efficient manner, and this alternative or others are solutions that can be managed by the coordination community and without any new regulations. For example, a microwave coordinator may, as a result of an initial internal interference analysis, identify particular earth stations on which frequency data is needed and, prior to issuing a formal prior coordination notification (PCN), issue a "pre-PCN" request for such data to the parties of interest. Assuming responses were received within a reasonably short time frame (10 or 15 days), the interference analysis can be finalized and a single PCN issued for "final" proposal with a high degree of confidence it will successfully clear coordination. The only support possibly needed from the Commission for this proposal would involve the particular response time frame. In any case, this approach puts the necessary data collection at the front end of the coordination process, time-limits it, and results in a more predictable and economical completion of the effort. There are, no doubt, other similar alternatives the coordination community could knowledgeably address, refine and implement as standard industry practice.

17. Before concluding, we feel obligated to question why the Notice – which focuses on microwave coordination with Fixed Satellite Service facilities – did not take the opportunity to incorporate a related Petition for Rulemaking, RM-9830. That Petition (which I submitted on behalf of a former employer) proposed FCC treatment of microwave orbital arc intersections as something other than a waiver, in order to allow quicker application processing and system operation. Even though the Commission routinely grants such waiver requests, the inclusion of such a waiver request in a license application precludes immediate system operation. It may seem like a rare occurrence but it isn't, and the required delay in system turn-up significantly disrupts microwave implementation schedules. The Petition was the subject of supportive comments from others in the industry (including PTG), and the microwave community is still waiting for what we believe would be a simple resolution by the Commission. The instant Notice, it seems, could have been a convenient vehicle for that resolution.

18. In conclusion, PTG supports the general direction taken in the Notice to support greater parity in the coordination rights of microwave and satellite earth station operators sharing frequencies on a coequal basis. We believe, however, that the desired results can be achieved with a fairly simple deletion of the "full-band, full-arc" language in Section 25.203, and does not require a new regulation – with the possible exception of setting a time frame for responses to related information requests. We believe no Commission action is needed at all on the application of interference-mitigation factors in coordination and the related interference protection rights of operators who may have agreed in earlier coordination to accept certain interference levels. Finally, we anxiously await Commission action on RM-9830 and the issue of waivers for microwave orbital arc intersections.

WHEREFORE, Pinnacle Telecom Group respectfully requests the Commission to consider the comments and suggestions made herein in connection with this proceeding.

Respectfully submitted,

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